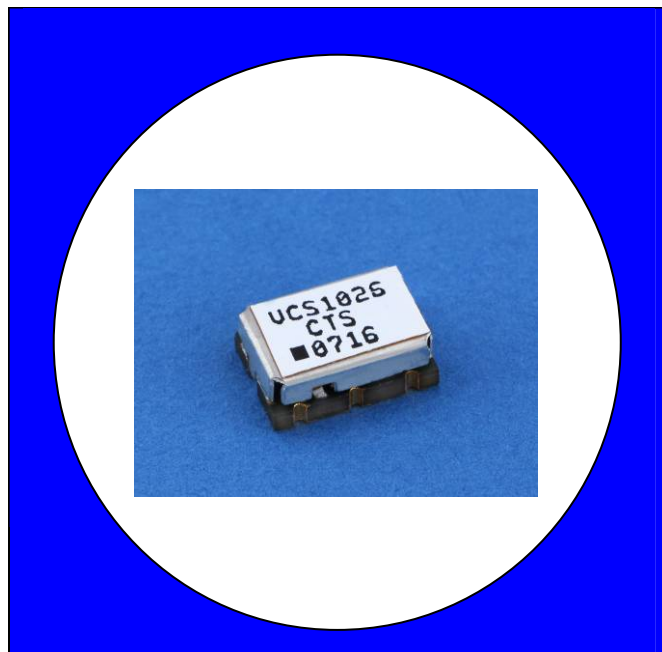


FEATURES

- Industry Standard 5x7mm SMT Footprint
- +3.3 Vdc Supply Voltage
- -40°C to 85°C Temp. Range
- LVPECL differential outputs
- ± 50 ppm Absolute Pull Range (APR)
- Output Enable/Disable Function
- SAW resonator
- Extremely Low Jitter
- Tape & Reel Packaging
- RoHS Compliant

DESCRIPTION

Surface mount 5x7mm VCSO operating at 3.3V supply with complementary LVPECL outputs for use in datacom & telecom applications.



ELECTRICAL SPECIFICATIONS

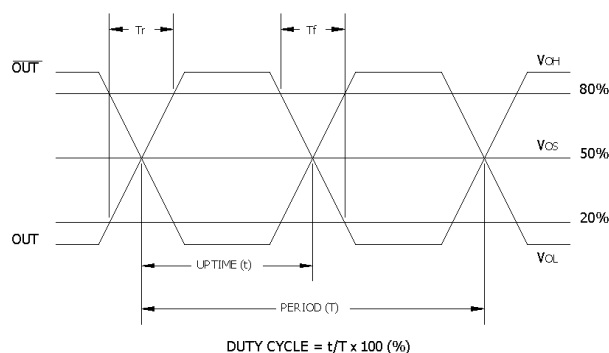
Parameter	Conditions & Remarks	Min	Typical	Max	Unit
Operating Conditions					
Nominal Frequency	f_{NOM}	-	622.080	-	MHz
Operating Temperature Range		-40	-	85	°C
Storage Temperature Range		-55	-	125	°C
Supply Voltage	$V_{\text{CC}}; \pm 5\%$	3.135	3.300	3.465	Vdc
Supply Current	$I_{\text{CC}}; \text{Max. } V_{\text{CC}}; T_A = 25^\circ\text{C}$ load = 50Ω to $V_{\text{CC}} - 2\text{V}$	-	60	70	mA
Load	output to $V_{\text{CC}} - 2\text{V}$	-	50	-	Ω
Frequency Stability					
Frequency vs. Temperature	ref to $T_A = 25^\circ\text{C}; V_C = \text{constant}$	+20	-	-150	ppm
Electronic Frequency Control					
Input Impedance	Z_i	50	100	-	$k\Omega$
Control Voltage Range	V_C ; positive monotonic transfer	0.3	-	3.0	Vdc
Gain Transfer		-	180	-	ppm/V
Absolute Pull Range	APR; all causes (see note 1)	± 50	-	-	ppm
Modulation Bandwidth	-3dB ref. 100Hz	-	50	-	kHz
Linearity	Deviation from best linear fit	-	2	10	%

NOTE 1: Minimum guaranteed frequency shift ($\Delta f/f_{\text{NOM}}$) under all conditions (temperature, aging, supply voltage, load) for 15 years at an average effective operating temperature of +55°C

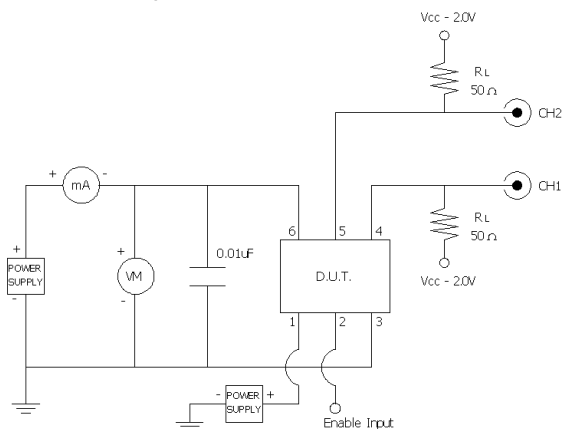
ELECTRICAL SPECIFICATIONS (Continued)

Parameter	Conditions & Remarks	Min	Typical	Max	Unit
Output Parameters					
Output Signal		LVPECL			
Amplitude	V_{OL}	-	-	$V_{CC}-1.620$	Vdc
	V_{OH}	$V_{CC}-1.025$	-	-	
Rise/Fall Times	20% to 80%	-	250	400	ps
Duty Cycle	@ 50% of output signal	45	50	55	%
Start up time	to reach 90% of final amplitude	-	-	10	ms
Phase Noise	100Hz	-	-85	-75	dBc/Hz
	1kHz	-	-110	-100	dBc/Hz
	10kHz	-	-140	-130	dBc/Hz
	100kHz	-	-143	-140	dBc/Hz
	1MHz	-	-143	-140	dBc/Hz
Phase Jitter	12kHz to 20MHz (calculated from Phase Noise)	-	0.16	0.3	ps RMS
	50kHz to 80MHz (calculated from Phase Noise)	-	0.16	0.3	ps RMS

LVPECL OUTPUT WAVEFORM



TEST CIRCUIT, LVPECL LOAD

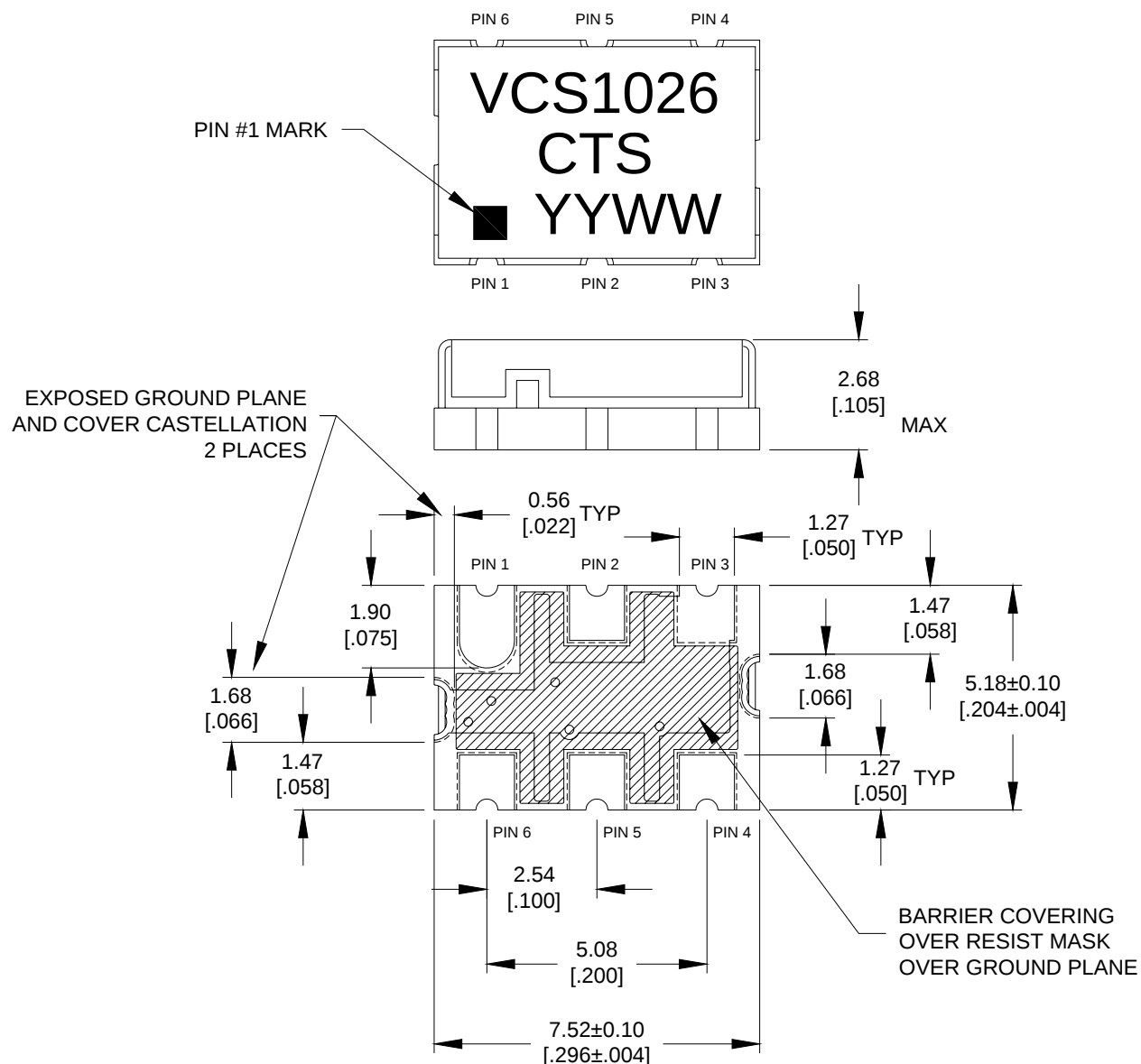


OUTPUT ENABLE/DISABLE LOGIC

Pad 2		Pad 4	Pad 5
Low "0"	outputs disabled	HI Z	HI Z
Open	outputs enabled	Output	Comp. Output
High "1"	outputs enabled	Output	Comp. Output

MECHANICAL SPECIFICATIONS

PACKAGE DRAWING

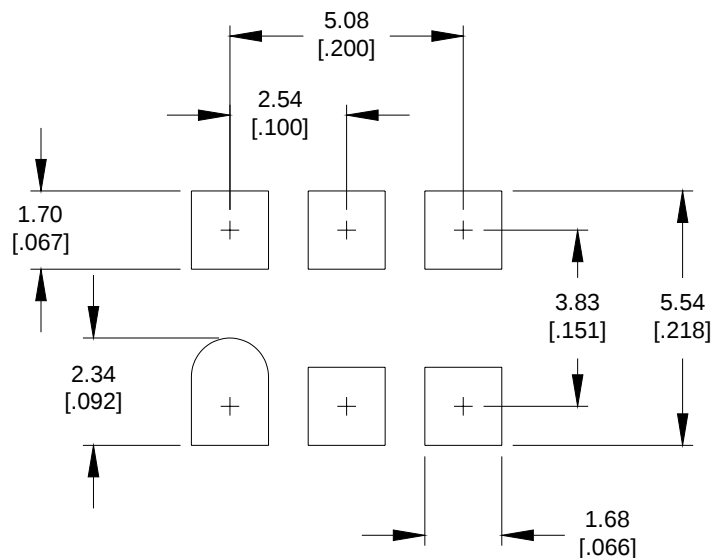


Lead Termination Finish: Gold flash, <10 micro inch, over 100 micro inch minimum Ni plated Cu
Co-Planarity (from seating plane): 0.1 [0.004] maximum

Dimensions in mm and [inches]

- 1) Control Voltage - V_C
- 2) Enable/Disable Control
- 3) Ground/Case
- 4) Output
- 5) Complementary Output
- 6) Supply Voltage - V_{CC}

SUGGESTED SOLDER PAD GEOMETRY

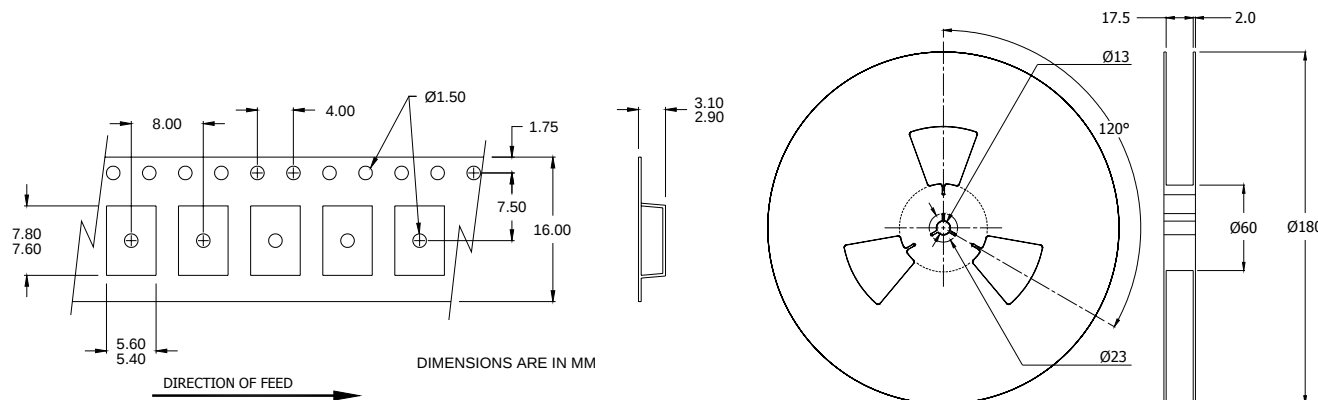


Dimensions are in mm and [inches].

MAXIMUM SOLDERING PROFILE

Temperature	217°C	260°C (Absolute max temperature)
Time	60-150 sec	10 sec. max
Note: Part is not designed to be reflowed in an inverted position.		

TAPE AND REEL INFORMATION



Device quantity is 1000 pieces max. per 180mm reel.

MSL Level: 1

This product is fully compliant to RoHS Directive 2002/95/EC